HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: The Sustainability of the Ministry of Defence, HC 533

Tuesday 30 June 2020

Ordered by the House of Commons to be published on 30 June 2020.

Watch the meeting

Members present: Philip Dunne (Chair); Duncan Baker; Feryal Clark; Barry Gardiner; Mr Robert Goodwill; Ian Levy; Caroline Lucas; Jerome Mayhew; Dr Matthew Offord.

Questions 1 - 53

Witnesses

I: Jeremy Quin MP, Minister for Defence Procurement; Major General Nick Cavanagh CB, Director of Strategy and Planning, Defence Infrastructure Organisation; Air Marshal Richard Knighton CB, Deputy Chief of Defence Staff (Military Capability); and Lieutenant General Richard E. Nugee CB CVO CBE, Climate Change and Sustainability Lead for Defence.

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Examination of Witnesses

Witnesses: Jeremy Quin MP, Major General Nick Cavanagh CB, Air Marshal Richard Knighton CB and Lieutenant General Richard E. Nugee CB CVO CBE.

Q1 **Chair:** Welcome to the Environmental Audit Committee. Today we have an evidence session with the Ministry of Defence to discuss the greening government commitments of the Ministry following a National Audit Office report into the Department. I am delighted that we have with us the Minister for Defence Procurement, Jeremy Quin. Jeremy, could you introduce yourself and the team of senior officers you have with you?

Jeremy Quin: Good morning, Chairman. Thank you very much for having us here this morning. If I may introduce the team alongside me: General Richard Nugee, General Nick Cavanagh and Air Marshal Rich Knighton. I think each of them will introduce themselves in turn and explain their particular aspects for today's briefing.

Lieutenant General Nugee: Good morning, Chairman. Richard Nugee. I am the Lead for Climate Change and Sustainability, writing a review of the Ministry of Defence's approach until the end of this year.

Major General Cavanagh: Good morning, Chairman. My name is Major General Nick Cavanagh. I am currently the Director of Strategy and Planning in the Defence Infrastructure Organisation, which is the Defence's infrastructure advisory and delivery agency.

Air Marshal Knighton: Good morning, Chair. Air Marshal Richard Knighton. I am the Deputy Chief of the Defence Staff for Military Capability and I have responsibility for our future plans for equipment and military capability.

Q2 **Chair:** Thank you very much indeed. We have an almost full Committee today and we have a series of questions we would like to put to you. The Ministry of Defence is one of the largest Departments of Government. This Committee has taken an interest in how the Government are going to achieve a net zero Government. In the last Parliament we began a cross-departmental review of how the Government can lead the way on the path to net zero.

We asked the National Audit Office to review each of the most significant Departments with carbon footprints to help stimulate some thinking on the part of the Department to ensure that this is high on your agenda. I can start by saying how relatively pleased I was by the quality of the report from the NAO—that is not a surprise—and by the encouraging signals that it has been giving about the commitment of the Department. Much of it is to do with some of the peripheral rather than core military activities of the Department, which is perhaps not surprising. Minister, given that you are relatively new in post, this is probably not top of your priority list at the moment, but could you give us an overview of how you see the Department

meeting its net zero obligations? Where does that sit within the list of the many issues you have to contend with?

Jeremy Quin: Thank you, Chairman. As you know from your own experience, there is a lot to do in the role of Min DP, but I am pleased to say that this is a very prominent issue inside the MoD. We can discuss the greening government commitments and where we have achieved—and, indeed, in one or two cases failed to achieve—our objectives on that, but there is a picture there that we in many areas are pleased with, and we would be more than happy to discuss more up-to-date numbers than were available at the time of the NAO report.

Perhaps more importantly, from the Committee's perspective, is the future. We have had two decades of policies in place regarding sustainability. That has been given far more impetus with the commitment to net zero 2050. That is why I was very pleased that before I arrived, General Nugee had been appointed to lead this work. We look forward to his report at the end of this year about how we go further in meeting those obligations, so I am sure that is an issue that we will be discussing through the Committee today.

To reassure all of you—and reassure you, Chairman—it does have a lot of prominence. As the NAO brings out, we have a record of taking practical measures—for example, around procurement—to improve sustainability, and the report is an exciting opportunity for the Ministry of Defence to go further and build on existing work.

Q3 **Chair:** Have you had a conversation with the Secretary of State on this subject since you have been in post?

Jeremy Quin: Yes, I have, in the lead up to this Committee, certainly.

Q4 **Chair:** Is there an acceptance across the Commands that there is a job to be done here, and are you able to highlight any particular areas where you think there are obvious gaps and measures that could be taken?

Jeremy Quin: I would not identify gaps. I think there is recognition that we need to go further. As you will recognise, Chairman, as a Department we are incredibly important when it comes to climate change and the progress that we, as a Government, need to make towards hitting those ambitions. We are very acutely aware of the challenge that we face. There is a lot of work to be done.

I do not think there are specific gaps, because there is work being done in all the key areas. Probably half of our carbon comes from equipment, and we have always looked at procurement through that lens. Some 30% comes from our infrastructure and there is work ongoing on that.

I do not want to pre-empt where General Nugee gets to with his report. The report is there for a reason and for serious purpose, and we all want to see what emerges. A lot of thorough and detailed work is being done on what we can do to improve. There will be areas—I am absolutely certain—

in addition to the areas already highlighted in our Defence plan that are being executed by the Commands that we will need to improve upon.

Q5 **Chair:** Have you taken away any action points for the areas that the NAO report has highlighted where the Department is not achieving its objectives? I am looking at water use, domestic flights, paper use—some of these things that we might think are marginal to your role. If you took a lead in eliminating paper—I say this having walked around the fifth floor—you would have a much tidier office. I have not been into your office, but the rest of the floor would.

Jeremy Quin: I can assure the Chairman that it is probably a much more sparsely populated office than he was used to. On a serious point, an extra 10,000 laptops have gone out in the last few months. The number of people in a position to work from home in the Department has massively increased, as has been the case, I am sure, across Government and more broadly. For all of us across Government, it will be interesting to see how we can entrench some of those necessary reforms of the last few months, and cutting paper use is going to give us a significant boost.

I am pleased to say that since the NAO numbers, 15 months on, we have had an improvement in terms of paper use. It is now about 40%. It has still not hit the 50% target.

On water, which you referred to, Chairman, again we are at about 11%, versus our 15% reduction target. It is not good enough, but progress is being made. What pleases me from my position is seeing the actions that have been taken on the water consumption reduction system and water efficiency management system to actually get better numbers and better data. We may not have hit the targets, but I can be told why: about a leak on a jetty at Portsmouth, and the visible increase in water utilisation on the Clyde as we increase production there. We have better data coming through as to the issues.

On the upside, I can tell you that we have managed to improve the performance of 2,500 urinals. It gets to that level of detail, so that I do think we are in a better position to monitor and have metrics around utilisation and there are schemes to improve that in terms of water utilisation in the coming years.

Q6 **Chair:** We will be coming on to land use and the buildings for which DIO is responsible shortly. The MoD is one of the largest landowners within Government. You have some of the most pristine landscapes and land features on ranges that need to be kept free of human beings and equipment. Do you have plans for significant deployment of some of that land for environmental purposes, to create some of the peatland restoration, and meet some of the tree planting targets? Is this what will come from General Nugee's report, or has work been done in this area already?

Jeremy Quin: Work is being extensively looked at throughout a long period, Chairman. There are 12 ecologists who work across the Defence estate. As you say, it is a sizeable commitment—about 0.9% of the total land mass. There are opportunities that we have already exploited and Bradenstoke, at MoD Lyneham was at one stage the largest solar power farm in Europe, I believe.

Across the whole of the Defence estate—and this is something that Nick Cavanagh may want to come in on, now or later—we do have to bear in mind that there is a range of objectives. The key thing about that training estate is that it is there for training. There are some impediments, actually, coming from the importance of the landscape. The Salisbury Plain SSSI (one of, I think, 169 SSSIs that we have overall) in its entirety is the size of the Isle of Wight. The bulk of it is SSSI. That is wonderful chalk downland. It needs to be grazed. Clearly, that would not be a suitable location for mass tree planting.

Where there are opportunities, we do take those up. The fundamental point of the training estate is that it is there for operational training military use, but we are seizing opportunities to exploit it, where we can, for environmental purposes, including where there are sites that are identified for renewable energy and solar power, where that is appropriate.

Q7 **Chair:** We will be coming on to specific questions for General Cavanagh shortly. Thank you for that. Could I ask Air Marshal Knighton about the targets for fuel use? The target for 2025-26 is only a 1% reduction on today. Why have we not set rather more ambitious targets for fuel use across the estate?

Air Marshal Knighton: Chair, are you referring to estate fuel use or total fuel use across Defence?

Q8 **Chair:** It is the total fuel use target that was only 1% down.

Air Marshal Knighton: Thank you. As part of our work to think through what our plans and objectives are over the next five, 10, or 15 years, and all the way out to 2050, we are going to review the targets we set ourselves in terms of fuel usage.

You will recognise that there are some uses of fossil fuels that are essential because of the military capability that we operate. That military capability has no obvious alternative for the use of fuel. There are areas where we can do something; for example, through the increasing use of synthetics, we are able to reduce the amount of live flying with our combat aircraft. There are examples, such as RAF Brize Norton, where some smart thinking and adoption of commercial best practice, in terms of the arrival and departure procedures for our large aircraft, has enabled us over the last five years to reduce fuel consumption by around £25 million. The target that you refer to is where we stand today. We expect to review those targets, and we recognise that we need to be more ambitious.

In particular, we are driving at a higher target for reduction in the consumption of fuel and energy—principally energy associated with the estate. As part of the conclusions from General Nugee's work, the Department will review the targets we set over the long term, and I expect us to want to drive to a faster reduction in the consumption of energy and fuel to enable us to meet broader commitments from the Government to net zero 2050.

Q9 **Chair:** Thank you. Two final quick comments from me. When do you expect to have a new set of targets in place? If General Nugee is reporting by the end of the year, can you give us a commitment to have targets in place by the end of the financial year?

Air Marshal Knighton: Chair, what we would expect to do is update our Defence plan, which we publish each year. We would put the new targets in there, and that is what we would direct the rest of Defence to do. We added additional targets to the Defence plan this year, particularly the energy target I just referred to. We have seen a reduction in fuel use—it is now up to 3%, beyond the 1% that you described a moment ago—so we will definitely add additional targets to our Defence plan from April 2021 for the subsequent financial years.

Q10 **Chair:** Thank you. My last comment: Defence has often led the way in innovation, which gets picked up by the civilian sector. Is there any work being done at the moment to look at synthetic fuels, either for aviation or maritime?

Air Marshal Knighton: Yes. In both areas we recognise there are opportunities to reduce the carbon footprint by the use of synthetic fuels. There are elements of research being conducted, both in our own laboratories but also generally internationally to look at how we might employ some of the technology that has been used in the commercial aviation sector in our military sector.

You will understand that the performance of our engines for our combat aircraft, in particular, is important to our military needs, so it does require some careful analysis and engineering to understand how we might use them. We do think that as we look forward to how we are going to reduce our overall carbon footprint in line with the Government's commitments, synthetic fuels will be a component of our solution to that problem.

Chair: Thank you very much. I am going to ask Feryal Clark to take over on the subject of electric vehicles.

Q11 **Feryal Clark:** Thank you, Minister, for joining us this morning. The Department's vehicles include almost 16,500 non-military vehicles, of which less than 0.1%—12—are ultra-low emission vehicles. What plans and funding are in place to get you from the 12 ultra-low emission vehicles you currently have to the 1,700 you need to have in place by 2022?

Jeremy Quin: Thank you, Feryal. I think the total number of non-military vehicles we have is around the 7,000 mark. [1] Therefore, you are absolutely right: 1,700 is the target if we are to get 25% there for 2022.

As you know, the overall commitment is to have non-military vehicles translated over to ULEV by 2030.[2] We have an interesting mix of vehicles even in that non-military fleet. A lot of vehicles we will need to find replacements for that simply are not on the market yet, but I am very confident that, as that market develops—as we all hope it will—there will be an expansion in the range of ULEV vehicles, and that target will be easier to hit.

The current fleet are all on contracts. As they roll off contracts, the objective is to replace them all with ultra-low emission vehicles. We have made some progress. You are absolutely right that the number is 12 at the moment. It will be 417 by the end of this year, so there are 405 on order at present. We have it in mind to acquire more.

In terms of the infrastructure around that, we estimate that it will be somewhere between £7 million and £15 million to put in charging points to ensure that the initial batch of ULEV vehicles—the initial 1,700—are properly serviced. This will require commitment, but we are committed to making that translation.

Q12 **Feryal Clark:** Thank you. On the 405 that you mentioned, what is the status of those? They are meant to be delivered by the end of this year. Where are you with that? Are you likely to be delivering the 405 ULEVs?

Jeremy Quin: My understanding is that they are on contract. There may have been a delay for obvious reasons over the last few months, but my expectation is that they will be with us in the Department by the end of the year.

Q13 **Feryal Clark:** You mentioned the charging infrastructure. Of course you need to have the infrastructure in place before you procure such a huge fleet. Is the funding in place to put in the infrastructure?

Jeremy Quin: I know the cost. I know that some of that is being put in place at the moment, but in terms of the actual expenditure and where those charging points are being put in, that is a level of detail I do not know. I do not know if any of my colleagues are able to help me out, but if not, I will come back to you. Rich Knighton, I think, wants to add in.

Air Marshal Knighton: Yes. The point about the infrastructure is it is not simply about putting in charging points for those vehicles that we have on order, or to get to the 1,700. We recognise that to support a vehicle fleet of ULEVs, you need to have quite a sophisticated infrastructure that matches the operational need of what you are going to use those vehicles

[1] Note from the witness: 'The figure of 7,000 relates to cars only, in line with the ULEV commitment.'
[2] Note from the witness: 'The Government commitment is to translate the entire government car fleet to ULEVs by 2030.'

for. The numbers that we are talking about, in terms of the infrastructure investment, will be made over a number of years. We are committed to doing that. It requires us to do things beyond simply fitting charging points.

For example, in some units we will need to upgrade the substations and the ring mains on the units in order to ensure that they have the capacity to deal with the growth in the number of ULEVs that we will be operating. I am confident that we will fund this and we will be getting on with it. We do not need to do all of that work by the time all of these 405 vehicles are in place, or even all the 1,700 vehicles are in place. It is an indication that the MoD is thinking about this over the long-term and recognises the investment that has to be made to ensure that we are able to operate effectively, in terms of delivering our output, but doing it with these ultra-low emission vehicles.

Feryal Clark: My point was that you do not have very long left before 2022, so I want to understand whether you have done the review of the infrastructure that is needed to support the 1,700 you are saying you will have by 2022. That is what I wanted to understand, but thank you very much for that.

Air Marshal Knighton: Thank you.

Chair: Thank you, Feryal, and now over to Ian Levy to talk more about the status of infrastructure.

Q14 **Ian Levy:** If I could direct my question to Nick, please. It is a follow-on from what Feryal has been talking about. The MoD relies heavily on oil and gas, and there has not been much of a significant change in the last 10 years. What steps has the Department taken on the uptake of renewables on MoD sites? Feryal talked about electric vehicles. I am wondering about hydrogen vehicles. Has any of that been looked at?

Major General Cavanagh: I think you are right to say that our energy mix has not changed significantly. We have made a reasonable amount of progress on renewables. For example, I would say that in the Allenby/Connaught PFI, there are over 2,500 solar panels. Recent projects, such as the development at Worthy Down, have more than 1,600 solar panels.

On some of our more remote sites, we have put in place some small-scale solar PV farms—particularly at some of our training estates—to reduce the reliance on delivered fuels there. Indeed, on some of our very remote sites we have invested heavily in, for example, solar panels, wind turbines and so on.

We are conscious that we face a massive challenge, and that there is a huge amount to be done in terms of moving towards a greater use of renewable technology. We are taking it to an approach of thinking really big but starting small, and then looking to scale fast. An example where we are trialling some of our future approaches in technologies is through the engagement with the Modern Energy Partners programme; we have

two pilot sites looking at testing the sort of technologies and approaches that will allow us to scale much more widely across the broader estate.

In the next 12 months, we are looking to roll out four solar PV farms attached to different Army units. That is a pilot of a project we call Prometheus, which is looking to test that technology of providing solar PV to our individual sites and barracks. Then we are looking to roll it out more broadly; there are plans, particularly in the Army, to roll that out to 70 to 76 more sites as soon as possible thereafter, once we have tested the approach.

We are also looking at third-party funding and, specifically, power purchase agreements associated with that, in a project called Project Daybreak. That is in its concept phase and is being developed, but it would look to roll out potentially large-scale solar PV farms associated with 53 of our sites.

Then, more broadly, we are looking at a number of other approaches—for example, through energy performance contracts, in which we potentially contract with a third party to improve our infrastructure. That is paid for through the savings in energy consumption. That is of course against a background where we are urgently reviewing our building performance standards and what we work for.

We have come a way, but we have a huge, huge challenge in front of us and we accept that. We are taking steps on a number of fronts to develop the ideas and technologies that we will then look to scale fast across the estate, funding permitting, of course.

Q15 **Ian Levy:** Thanks. Going down a slightly different track, I believe 54% of the Department's SSSIs have appropriate conservation measures in place. Could you explain a little bit as to what the Department is doing to address this? In Blyth Valley, my constituency, we do not have any SSSIs with the MoD, but in Northumberland we certainly do. I am thinking of the Otterburn Ranges. Could you explain a little bit about what steps the Department is taking to address this?

Major General Cavanagh: As has been said already, we are very fortunate to be responsible for many areas of outstanding natural habitat. As I think has been said, we have 169 sites of special scientific interest. That covers around 82,000 hectares. That is over 37% of our estate.

In terms of the condition of our SSSIs, of course only the statutory nature conservation organisations, such as Natural England, can change the formal status of them. There have been a limited number of assessments done recently, but our current statistics say that 48% of our SSSIs are classed as favourable. Approximately 98% are unfavourable recovering or above.

Our sense is that we have good management regimes in place for the bulk of our SSSIs. We certainly feel from our own internal assessments that the current measurement of favourable condition is probably an

underestimate. We think it is probably slightly higher than that, but we fully accept that there are areas where there is more that we need to do and, as the Minister has said, we have a dedicated team and an allocated budget that is responsible for both maintaining and driving forward the performance of our SSSIs, and to meet the more demanding targets that will inevitably come through the future 25-year plan.

Jeremy Quin: We are very excited about the opportunities that the estate presents. I think Nick was almost being modest about where we are at present. As he said, it is 48% favourable. If you add in unfavourable but recovering, it is over 98%, and that puts us in a better position than most other major landowners, such as the National Trust. That is alongside the fact that this is an estate that is being used for military training alongside the benefits we get from conservation.

The ecologists that we employ believe that 10% of the estate is in a better place than the last time it was formally audited, so we are looking forward to a future audit. We think it will show better numbers than in the past, but those numbers are indeed better than other major landowners. I still emphasise, as the General did, that there is more that we can do, but we are very proud of the estate, and for many, many years—for decades—we have invested in it and continue to do so.

Q16 **Ian Levy:** Thank you, Minister. I was going to ask you what discussions you have had with other ministerial colleagues at DEFRA about the challenges faced by the MoD in assessing the SSSI land that it controls, but I think you have covered quite a bit of that. I don't know if you want to expand any more on that.

Jeremy Quin: All I would say, Chairman—through you, if I may—is we do have a close working relationship with DEFRA. We sit on its main biodiversity Committee and contribute actively to that. We have a standing MOU regarding how we use the estate, and how we ensure that we minimise damage to it and, where necessary, repair and mitigate, so environmental protection is absolutely core. I do not know if Nick would wish to add to that, because you are the person dealing with—

Major General Cavanagh: I would simply say that we think our relationship with DEFRA and all relevant statutory bodies is really good. We have regular engagement with all of them. We host regular visits to our estate, and we are fully engaged with the developing strategies around peatland, trees, protected areas and nature that are arising from the DEFRA 25-year plan.

Ian Levy: Thank you. I think you have more or less covered everything I wanted to ask, so that is fine.

Chair: Robert, you had a quick question on Larkhill.

Q17 **Mr Robert Goodwill:** Yes, if I may. I know there are some very good examples you could have mentioned—for example, RAF Marham, where the anaerobic digester is providing 90% of the energy needs—but while

you are obviously making provision for your own electric vehicles, a lot of your personnel over the next 20 to 25 years are going to be purchasing vehicles.

As I understand it, at Larkhill you have built 540 new homes to accommodate staff coming back from Germany, but none of those homes has any charging points, and despite the fact that it is only a 10-minute hop to the base, there does not seem to be a lot of cycling provision there. Do you think there may be opportunities you have missed, as you were developing some of these new super garrisons around the country, to make provision for your staff to make green decisions about cycling to work and buying electric vehicles?

Major General Cavanagh: While I am not familiar with the details of the Larkhill development per se, the Army basing programme that has brought the bulk of the Army back from Germany to locations around the UK has had a huge sustainable element to it. I know particularly around Salisbury Plain—which is so rich in archaeology and history—that has been a major component of that particular programme.

When it comes to specific actions around cycle lanes and electric vehicles charging points, I know that the houses that have been built around Larkhill are highly efficient. Many of them are fitted with solar panels. They are very modern houses, but I acknowledge the fact that they have not been fitted with electric vehicle charging points.

The broad point that I would make is that we are very alive to the need for us to both review and develop the building performance standards that we go out to the market with. That both includes, for example, the inclusion of electric vehicles charging points in future housing developments, but also some of those wider commitments, as you say, in a more garrison-wide sense, so I hope that helps.

Mr Robert Goodwill: Yes. Thank you very much, Chair.

Q18 **Chair:** Thank you, Robert. Picking up on the housing programme, the Government are consulting on the future homes standard. We are determined to press them on not just the building standards for new homes, but retrofitting existing homes. The vast majority of the military housing estate is not yet antique, but it is by no means new. What is being done to look at the programme for retrofitting to ensure energy efficiency across the housing estate?

Major General Cavanagh: We have a very active programme of service family accommodation upgrades. We did 950 last year. This year we are approaching 800. They include—

Q19 **Chair:** How many units?

Major General Cavanagh: We have a total housing stock of approximately 49,000, of which approximately 39,000 are from Annington Homes. That is our ongoing upgrade programme, and that has been going on for a long time. It covers areas such as windows, doors, insulation,

boilers, electrical and renewable where possible, and various other energy efficiency measures.

That is an ongoing programme, but we are very conscious that we need to examine what we are demanding in the future. That is where we have initiated several pilots this year. In the Helensburgh area, we will complete a zero energy house to trial the sort of technologies and standards that we may wish to ask for in the future. We are also carrying out a pilot upgrade programme of 10 other houses that will work to a standard—called the Energiesprong standard—which is not net zero but is a massive improvement on their sustainability and efficiency. They will both roll out this year and be delivered in-year, and our intent is to learn lessons from those particular projects as to what we will specify in our future upgrade programmes as we move forward.

Jeremy Quin: Chairman, you are not wrong in identifying this as a key area where we need to make improvements. I think the total number of buildings we have within the estate is 115,000, and I think approaching 50% of those are 50 years old or more so, as you say, Chairman, not antique. Some of them are—I think we have 772 listed buildings in one form or other, or scheduled buildings—but there is an awful lot of work to be done. Partly that is going to be met by a reduction in the overall size of the military estate that we are committed to, and there could be up to a 30% reduction in our built estate, but where we have ongoing buildings, they do need to be upgraded and it is going to be a huge task, which will be very familiar.

Chair: It will, because the DIO has tended to be the first part of the estate to get spending cuts, and a huge backlog of repairs has always been there, so I just hope you are planning, when you do repairs, as you have just said, General, to do so with improved energy efficiency in mind. Thank you. Barry Gardiner is now going to talk on procurement and the supply chain.

Q20 **Barry Gardiner:** Thank you, Chairman. Good morning, gentlemen, and welcome. I spent four days with your counterparts in the Pentagon a couple of years ago and I was hugely impressed by the way they see climate change as a significant geostrategic military threat. I take it that that is your view also. Is that right?

Jeremy Quin: Absolutely, Barry, and I think that is something that you may wish to address to Richard Nugee. Part of his report will be looking at the strategic implications, as well as the practical things that we can do as a Department. An integrated review will also be very conscious of the impact of climate change and the way the military will have to evolve to face that, including more humanitarian work, I have no doubt, among other challenges.

Q21 **Barry Gardiner:** Minister, let me give you a problem or a thought experiment. You are procuring a new anti-drone surface to air missile, and during the procurement process intelligence is received that a hostile country has developed a new piece of technology; let's call it a super fast

drone. Obviously the specification and design of the missile was before the invention of the new threat, so how should your procurement process respond? Should it seek to modify the specification to meet this new threat, or should it say, "Oh, well, we followed the specification. It was adequate at the time, so we will just carry on regardless"?

Jeremy Quin: Barry, as we have here the Deputy Chief of the Defence Staff in charge of procurement, I will ask for his views on it. I hate answering hypothetical questions but, in theory, taking a bit of kit, our prime objective is to have agility in the way that we procure our equipment, so it is to ensure that as we acquire equipment, we are very alive to what that equipment will need to do and how we will ensure that that meets the evolving threat. It is difficult because, as with so many things, if you start down one route and then you start adding and taking away, that creates complexity and creates cost, but our objective is to be more agile in the way we procure equipment and always ensure that it is addressed properly to meet the threat that it is designed to face. If you want to have more detail, I am very happy to pass you over to the Air Marshal.

Q22 **Barry Gardiner:** Let's just pursue it for a moment, so that we ground the thought experiment, because in the agreed National Audit Office report, part 3 section 8, we find that only last year the environment statement for HMS Prince of Wales determined when construction had started. It did that because if work had started prior to January 2011, the Department could say that less exacting environmental conditions would apply. Therefore, even though the Government had now set a new net zero target, even though new nitrogen dioxide emissions standards were required, the MoD decided to tolerate a lower standard if it could get away with it, but you would never have done that with an operational military threat, would you? Minister, you are in charge of Defence procurement. How was that able to happen?

Jeremy Quin: I am not going to go through the specifics of the Prince of Wales. I wasn't the Minister at the time, and I am not fully aware of the full details to which you are referring, Barry. What I would say is I can also list a whole range of areas where the MoD is not required to meet particular targets but does with alacrity, and goes further than is required in order to meet environmental targets. We are very proud of the estate that we are running, and we are very committed to hitting the targets that we need to in order to help the Government get to their net zero commitments.

Q23 **Barry Gardiner:** Indeed, but this is an agreed report between your Department and the National Audit Office, and what it found was that you were concerned to use what you knew to be outdated standards by determining that the date of commencement of the project was before the new standards came into being. I am sure that there were costs associated with upgrading, but the point I am trying to make is that unless you regard climate change—as you just acknowledged you did—as a significant military threat, a strategic threat, in the same way as the operational capability of a piece of military equipment for use in the theatre, you are not going to have the same pursuit of excellence in environmental

standards as you are in operational ones.

Jeremy Quin: Look, I acknowledge what you say, Barry, through Mr Chairman, but I think it is unfortunate that that is the one thing that you are picking up, in terms of procurement. Elsewhere in the report, the NAO does say that through our approach, how we procure and how we look at sustainability, we as a Department are taking a leading role in taking forward principles of sustainability and procurement. I note what you say about the Prince of Wales in 2011, but I think there are positive things that we can talk about as well.

Q24 **Barry Gardiner:** One of the limitations identified by the NAO in its report was that some projects involve joint procurement with other NATO members, and they said that limited your opportunity to specify bespoke mitigations for environmental risk. I did not quite understand that. Why would you compromise on those issues, on the environmental issues, if they were really considered important to you, critical for your strategic engagement? Why would you not use the leverage that you have from your investment in those projects to drive up environmental gain?

You have huge clout more generally. You represent 40% of all Government procurement spending, and last year you spent almost £25 billion of public money—more than £10 billion—with just 10 suppliers. That gives you huge power to insist upon what you want, but your own Department's SGR report says that you are reactive, not proactive, when considering the ongoing environmental implications of procurement projects. You specify, for example, sustainable timber, but you fail to specify greenhouse gas reductions or biosecurity. Lieutenant General Nugee, you are in charge of the climate change and sustainability review; this may be one for you to answer.

Jeremy Quin: I don't know if Rich wants to say anything about procurement and how we currently practice it. Then if Richard Nugee comes in to talk about the future, that would be helpful.

Air Marshal Knighton: There are two things I would like to talk about. On your point on the Prince of Wales, in case there is any kind of potential misunderstanding, what the NAO report says is that the environmental statement for the Prince of Wales, prepared in December 2019, reported that an assessment was underway to determine an accurate date for construction, so that we could test that the correct regulations were followed. It does not say that the Department deliberately chose an earlier date in order to ease—

Q25 **Barry Gardiner:** No, no, sorry. I am really sorry. Let's go on to complete what it says, because I have it here, just as you have: "If work started prior to 1 January 2011, less exacting nitrogen dioxide emissions standards would apply". Therefore, the intent of this was to see if you could get round those higher standards, so I am sorry, but I do not accept what you have just said.

Air Marshal Knighton: Forgive me, Mr Gardiner, but I disagree with you. What the report is talking about is an environmental assessment that was conducted today to test what standards should have been applied and whether we meet those standards. What it does not say is whether the carrier actually meets the more exacting standards, and it may well do. That was the purpose of that work. I just wanted to make it clear that this was not a deliberate attempt by the Department to try to use less exacting standards. I just wanted to make sure that the Committee was clear on that. Your second point about NATO and collaborative projects—

Q26 **Barry Gardiner:** Let me just clarify that, if I may. By all means go on to your second point in a second, but the NAO report says, "Despite the efforts of the relevant project teams, we identified several limitations in the environmental assessment of these projects", and that—the one that I highlighted about HMS Prince of Wales—was one of them, so I think the NAO has a very different view of what was going on here, and it is an agreed report. Anyway, please go on to your second point.

Air Marshal Knighton: Your second point was around NATO and the limitations that the report describes, in theory, when we work on a collaborative project. The point you raise about our leverage and our ability to influence both collaborative projects and industry is absolutely right, and so when we work with allies in developing new capabilities, we inevitably have to work through a set of requirements and some compromises are necessary. But my experience of working alongside our allies in NATO—and particularly our key allies, such as France and Germany—is that they take the commitments to the environment and environmental protection incredibly seriously, so I do not think there is any suggestion in the report that we haven't exercised leverage, or that we do not take it seriously. I think it is simply stating that there is a risk, when you work in a collaborative project, that compromises will have to be made, and that is true.

You are absolutely right that we should be using our expertise, our determination and commitment, and the major commitment that the Government have made to net zero 2050, to apply that leverage over our partners. I am pleased to say that it is a conversation I have regularly with my opposite numbers in major allies in NATO.

Q27 **Barry Gardiner:** I am very pleased to hear that, and I respect the fact that it is a hot topic of conversation with our allies. Again, the NAO report suggests that it is that joint procurement, and I quote it: "Two of the projects involved existing joint procurements with other NATO members, limiting the opportunities for the Department to specify bespoke mitigations for risk". It did not say there was a risk of you not being able to do it. It said it did limit your ability to do it. I am glad to hear that you are pressing the agenda there, but I think it is really important that these are considered to be fundamental non-negotiables, in the same way as the operational capability of something like that.

Jeremy Quin: Thank you, Barry. We tantalised you with Richard Nugee and the future, and I don't know whether you want to hear from Richard as well, as you mentioned his approach to the future.

Lieutenant General Nugee: Very briefly, because, of course, my report has not been written yet, I have created a roundtable with industry that is extremely enthusiastically supported by industry, to look at how far we can push the envelope realistically, with the technology that exists now and the technology that will exist in the future, to change the way that we procure, so that sustainability and the environment are at the heart of what we do; to make sure that we can take advantage of the technology as it develops, and push industry, with the power that you spoke about, in terms of our spend, to different solutions.

The interesting thing for me is that industry is really enthusiastic. They say that they have to do this for other clients, and therefore they welcome our push in this environment. While I cannot give you detail yet, I meet with industry on a very regular basis to absolutely nail what it is that we can ask them to do in the future to bring this right to the fore of our procurement process.

Q28 **Barry Gardiner:** Very good. Look, the only caveat I would put is that for three years you have not even monitored compliance with your own standards. I am glad to hear that industry is happy to be held to those standards, but you need to be monitoring that compliance. Part 3, section 6, of the NAO report says that you last audited compliance for your POEMS system three years ago—that is the project-oriented environment management system—but that the new audit would be ready by the end of June 2020. Well, today is 30 June 2020, so how is compliance now?

Air Marshal Knighton: Mr Gardiner, if I may, I will pick that up. I spoke to the lead auditor yesterday about the progress of the report. To some extent, some of the audit was impacted by Covid, but I am pleased to say that the draft report that the auditor has written offers substantial assurance against compliance with the project-oriented environmental management system. That report will be formally released very shortly and will be passed to the Minister for Defence Procurement, but I am pleased to say that the audit illustrated that we had got substantial assurance against that system.

Q29 **Barry Gardiner:** That is good. I have to say that when it was previously audited, you had an 89% overall compliance. Land projects were 98% compliant, which is absolutely excellent. It is good, Air Marshal, that you are responding here, because, unfortunately, air projects had only a 33% compliance, so how are they doing in the new scenario?

Air Marshal Knighton: The way that audits are completed now across departments is how you would anticipate in large organisations with levels of assurance. The specific level of assurance that they have identified is substantial against the processes laid out in the environmental management system. There are a series of observations in there. I am

afraid I do not have a specific figure around each of the different environments, but the overall report—which will formally go up through the system in the Defence Equipment and Support organisation and, as I say, we will pass a copy to the Minister—offers that substantial assurance, which is a good level that we should be aiming for in our processes and compliance.

Q30 **Barry Gardiner:** Last time it was 89% overall, which was excellent. The air projects let it down rather, so perhaps you could write to the Committee once those figures are available, to let us know how they compare with last time.

Air Marshal Knighton: Of course, Mr Gardiner. I would be delighted to offer a draft for the Minister to send to the Committee, with an update on the assessment that has just been concluded.

Q31 **Barry Gardiner:** Thanks. The NAO said that the environmental practice tended to lag behind the theory in the Department. It criticised you for failing to quantify impacts. You did not look at the cumulative emissions across the projects' lifespan. You did not centrally collect data, so there is no central reporting of compliance conditions, and the Department does not know how effective or not its contract terms are, or the extent to which the guidance you issued is being followed.

Ultimately, this report, which you agreed, said: "This means the Department does not know the level of emissions committed to through its equipment plan for procurement and support". You cannot tell, in effect, how the £181 billion you propose to spend over the next decade is going to limit the Government's headroom with regard to their net zero targets and meeting the significant strategic military threat that you acknowledged climate change to be when we began. Will you commit to cumulating and quantifying individual impact assessments, so that you do get a proper overall picture of the future impacts?

Jeremy Quin: Chairman, I am going to ask Richard Nugee to come in about some of the thoughts he is having for the future.

On the valid point that Barry is making regarding accumulation across all the projects, the only word of warning I would put in is that clearly we do acquire—Barry referred to the Prince of Wales earlier—kit that will be in service for decades. To try to work out the operational utilisation of that kit over a protracted period is clearly quite a difficult judgment to make, although judgments can be made on it, and I would not always assume, incidentally, that, "Oh, well, what the MoD would assume will then always be exceeded." That is not the case.

The Air Marshal was referring earlier to synthetics. If you looked at what you would assume to be the utilisation of Typhoon fuel, usage has actually been significantly lower, because we have been able to displace training in the air with synthetics. It moves both ways. I would not underestimate the difficulty of judging the operational use and the impact on fuel, try as we might—and the Air Marshal referred to the group 2 transport plan in the

RAF, where we are reducing fuel utilisation. That is always a judgment call. Richard may wish to comment about looking to the future and how we can do better in this particular respect, and I would like to come back on one point on governance as well, if I may.

Lieutenant General Nugee: The intent is absolutely clear: we need to reduce the emissions from our operational capability. We must do that to try to reduce our overall emissions. That must correspond to new equipment, and the provisos that we put into our requirements for new equipment to be as close to net zero as possible, given that they must maintain their operational capability. Without doubt, our intent is to make sure that we reduce the emissions on all equipment that we can. That is relevant for new equipment and existing equipment. Where we can reduce emissions, where that is both economically viable and sensible to do so, we will absolutely try to, and that is going to be part of my report.

Whether it is cumulative or not, or whether it is aiming to get as close to net zero as we can with our military capability, I do not believe it will be absolutely possible, with our military capability, to get to net zero, from what I have looked at so far, but we will get as close as we can. That will require changes in the way that we do business, changes in the acquirement process that we send out to industry, and changes in what we demand from industry, to make sure that they think in terms of both sustainability of our equipment and the circular economy, so that we can reuse whatever we have finished with to the best of our ability. That is all part of the plan that I am trying to produce.

Q32 **Barry Gardiner:** Thank you very much. Just to tease out a little bit from what you have said, you were quite specific about not being able to get to net zero. I would just remind you that it is net zero, so if operationally you cannot have zero emissions, you need to have some way of offsetting those emissions. I trust that in your future review, you are including that aspect of getting to net zero, so that you can actually make sure that the Government does meet their target by 2050.

Lieutenant General Nugee: Forgive me, I was very specific. I do not believe we can get to zero for our military capability. That means I believe there will be an irreducible minimum. I do not believe, for example, that we are going to be able to replace the engines and the aircraft carriers—and the aircraft carriers are still going to be around in 2050, all other things being equal. That is just one example of where I believe we will not get to zero with our military capability. Absolutely, with the use of our estate, with minimising our emissions elsewhere, as much as we possibly can, I believe that we can get to net zero, but that is at the moment where my thoughts are. I need to do the detailed maths to work out exactly what that looks like in the decades that follow.

Barry Gardiner: I totally accept that. Thank you very much. Chair, back to you.

Chair: Thank you, Barry. I think, Air Marshal, if you are writing to the

Committee with the updated stats, it would also be helpful if you could put a note in, explaining in writing the difference between the interpretation that you have on the Prince of Wales issue raised by Mr Gardiner and the NAO report, just for completeness and clarity. Caroline Lucas has a quick question to follow up.

Q33 **Caroline Lucas:** Yes. Obviously, I am very heartened to hear of your aspirations to reduce emissions, but to do that, you need to know what the total emissions are now, so that you know what scale of reduction you are looking at. I wanted to push you a little bit more on why the MOD does not estimate a total figure for greenhouse gas emissions for the whole UK military industrial sector, including arms and defence companies and the UK supply chain. I appreciate that they are difficult judgments to make, but, for example, independent research has been done that would suggest that it would be in the realm of around 6.5 million tonnes of CO_2 equivalent. So it can be done, and I would like to know why the MOD is not doing it.

Lieutenant General Nugee: As the first part of the work that I have done, we are looking at a new baseline. We are looking obviously at Scope 1 and Scope 2 emissions, which you would expect us to do. We are looking at parts of Scope 3. What we need to do is work out what is sensible for Scope 3 for us, and what is not, so that we have a viable figure we can independently audit.

It is really clear to me that we need to independently audit whatever baseline I come up with to make sure that it is sustainable as a baseline, and that we can move forward from it. What I do not want to do is mark my own homework. I do want to get somebody external to come and check that the baseline we have come up with—Scope 1, Scope 2 and elements of Scope 3—is acceptable and is a strong foundation from which to follow to get as close to zero as we possibly can.

Q34 **Caroline Lucas:** If you were looking for people to come in to help you, it is quite interesting that Scientists for Global Responsibility, for example, have pointed that if the MOD was a UK company, a corporation, the omission in some of your calculations so far would put you the wrong side of greenhouse gas reporting standards. It feels like if we are asking our companies to be able to have an overall view of their Scope 1 to 3 emissions then it is not too much to ask the military to as well, not least because the MoD's own data shows that the total amount of emissions that you are responsible for is around three times higher than the headline figure that you do include, which is just for estates. If you were to look at the wider impacts you have, you could be looking at a figure around three times higher. I am very glad this is something you are going to be looking at in the future, but it is odd to me that this has not already been done.

Lieutenant General Nugee: I think the only answer is that, while we have been looking more widely than at what we have to report, we have reported in line with what the Government have asked us to report. We are following the guidelines the Government have set, but we are looking much wider. Particularly, in my review, we are looking much more widely than

we are asked to under the current Government greenhouse gas emission requests.

Caroline Lucas: We need to have a word with the Minister to up the ambition of the Government, then. Thank you very much.

Chair: Thank you, Caroline. That takes us nicely on to Duncan Baker's questions on sustainability.

Q35 **Duncan Baker:** Good morning, everybody. It is good to hear what you are doing, and it is important, obviously, that all Departments play their role, as I am sure you will agree. Specifically, targets are needed, given the size and range of activities of the Department, as we have seen, and I am sure you are actively wanting to play your part.

Specifically to Minister Quin, and then to Lieutenant General Nugee: given that the National Security Strategy makes no commitment to environmental sustainability specifically, how does the Department ensure that environmental protection is considered in strategic decision-making?

Jeremy Quin: I think the answer is very simple, Duncan: it is. Richard will probably come in on this as well. Climate change is something that we are very aware has strategic ramifications. I have no doubt it will be picked up in Richard's review as one of the evolved threats and challenges that we need to meet.

As I have already mentioned, things like HADR, our response to humanitarian disasters, is a scenario where I anticipate we are going to need to do more work. As the Committee knows very well, with the ramifications of climate change, there is a whole range of issues for people. The geography is immense, and that is something we are very focused on. We are doing our utmost to ensure that, as Defence, we are aware of that challenge and we respond to it. That has been there for a long period. We have an existing sustainability policy, Act and Evolve, which is focused on this, as is the Defence plan. Richard may well wish to add to that.

Lieutenant General Nugee: We have been working very recently with the Committee for Climate Change. Its report, which was published last week, has asked us specifically to look at the adaptation that will be required in a 2°-increased world and a 4°-increased world. We need to look at what effect that will have on our equipment; whether it is our ships, whether it is our aircraft being able to fly hot and high, whether it is other aspects of the electromagnetic spectrum that we need to look. We need to look at all of those. I have asked our research and development department to look at what the impacts are of a 2° and 4° increase, so that we understand the impacts on our ability to prosecute our operational capability, which of course is our primary purpose.

We are well aware that we need to look at that, understand it and, if necessary, change the requirements for our equipment, to make sure it can operate in a much-changed climate world.

Q36 **Duncan Baker:** I am going to press you on that, Minister Quin, slightly. If the National Audit Office found that the current National Security Strategy and the Defence strategic decision that follows from it makes no commitments relating to environmental sustainability, why are you so confident that it is part of it?

Jeremy Quin: We, as a Department, have to set our own priorities and our own goals. The targets relating to the environment and sustainability are included within the Defence plan. At the very heart of the MoD is the DSEC Committee, chaired by the Permanent Secretary and attended by the Service Chiefs. We are very aware of what needs to be done currently, although there are gaps in our knowledge that certainly will be filled by Richard's report. I can reassure you, Duncan, this is something that we are very focused on as a Department.

Q37 **Duncan Baker:** Coming on to those gaps then, what are you doing to address the gaps in environmental coverage in the 2019 Defence plan more specifically? Let us be clear: there is a lack of specific activities and delivery dates for biodiversity conservation.

Jeremy Quin: Why do you say that, Duncan, in terms of biodiversity? We are actually very proud of the work that we put into biodiversity and how we are answering that challenge. The ecologists we have working with us, the 170 professionals who are involved as part of that environmental network, are very focused on our responsibilities. As I said earlier regarding the state of our SSSIs compared to other large landowners, I think we are doing a lot of good work in terms of biodiversity.

On the Defence plan, there are specific requirements included in respect of how we intend to achieve our environmental objectives. Continuous progress is required via the Defence plan, which is reported on quarterly.

As the Deputy CDS, I know you are part of that reporting structure, Rich; I do not know if you want to add to that.

Air Marshal Knighton: Thanks, Minister. We publish a Defence plan each year, which directs the activity of Defence and sets targets. The position in 2020 is that it has actually increased the number of targets and includes the additional 10% reduction in fuel consumption that the Chair referred to earlier. We break that down into the specific targets for each of the big components of Defence—the Army, the Royal Navy, the Air Force, Strategic Command.

As I said earlier, we will look to implement some of the recommendations that Richard makes, with the agreement of Ministers, and direct the Department to deliver against those targets in our Defence plan in 2021. That is our administrative and bureaucratic mechanism of driving the Department to deliver against the strategic direction intent of Ministers. As we have seen over a number of years, incrementally we have increased those targets. As Richard set out, we recognise that we need to make a real shift in the approach that we take if we are going to meet the

Government's commitment to net zero 2050. The way in which we will do that will be through the targets that we set in our Defence plan.

Duncan Baker: To go back—

Jeremy Quin: Sorry, apologies, Duncan. I see opposite me Nick Cavanagh is desperate to get in. If you would not mind, Chairman, I think—

Major General Cavanagh: I was simply going to say that on biodiversity, we are very conscious of the objectives set out in the 25-year environment plan. We are engaging with that strongly. As we move forward, in terms of the drive to achieve those objectives and the net zero objectives, we are very clear that we will conduct a natural capital audit, and we will put in place tools and plans for how we can drive the rural estate forward in terms of its contribution to meeting the net zero 2050 objective and the objectives of that 25-year plan. We are very focused on that.

Duncan Baker: That is good. However, the plan outlines systems to protect biodiversity and to build sustainable infrastructure, but does not actually give any specific activities or delivery dates to realise these. I think that needs to be built into the document. Thank you.

Chair: That is a recommendation. Thank you, Duncan. We move on to Matthew Offord, who has some questions on governance.

Q38 **Dr Matthew Offord:** Good morning. Can I start by thanking you all, gentlemen, for your service to this country through your work at the Ministry of Defence? Particularly I would like to thank, of course, the Minister, because he used to be my Whip.

Anyway, moving on, we have drawn heavily upon the NAO report today, and there is an issue about sustainability. Sustainability is one of those words that is often attributed to people, and very little action is taken as a result of that title. The NAO report states that it is unclear "what, if any, activity has been carried out by the sustainability champions since 2018". Why are the sustainability champions not doing anything?

Jeremy Quin: Thank you, Matthew. First of all, that was one issue, and there were a number of issues raised by the NAO report about governance. I am very pleased with what we are doing now in terms of governance inside the Department.

Clearly the policy on sustainability flows from the Secretary of State all the way down. There were new safety and environmental protection measures announced in April of this year. Barry referred to theory and practice; I recognise the importance of getting the practice right, as do you. At the very heart of the MOD is a Committee called DSEC, which is chaired by the Permanent Secretary. The Service Chiefs all sit on that, and the executive officers of our other bodies sit on it. Richard Knighton sits on it as well, and is charge of military capability. That is what is going to drive environmental protection over the next decades.

Also, we have a working group on climate change and sustainability, working with Richard. It is yet to be formalised, but I am confident that when that report comes through, the working group will be enabled via the DSEC. It gives me a lot of confidence that at the heart of the organisation, chaired, as I say, by the Permanent Secretary, there is body that is responsible for that, flowing right the way through the Commands and on. Via the new Director of Health, Safety and Environmental Protection, we have a far better-developed sense of responsibility in terms of the development of policy. I suspect that will need to be mirrored by a specific focus on sustainability after the report and in light of the lessons we need to learn from it. They have an audit function via the DSA to check that what we are hoping to do in theory is indeed being followed in practice, and there is the mechanism of the Defence plan, with the quarterly reporting to which Richard referred.

I think all of that provides a better framework than we have had in the past for ensuring that what we want to do in theory actually happens in practice throughout the Commands.

There is a large number of subject matter experts across Defence. As I say, 170 professionals signed up to the environmental community, but it is wider than that. I think what you and the whole Committee would wish to see is a culture in which everybody is very aware, throughout Defence, of the importance of sustainability and meeting our climate change targets. As we said at the outset, we are a very, very large proportion of carbon emissions from Government as a whole, and it is critical that we get that.

Q39 **Dr Matthew Offord:** That is very good, and it is certainly what we would like to hear. You mentioned the Defence Safety and Environment Committee, but you also used two words: you said it would "drive" the sustainability agenda, and you used the word "overview" as well. Those are two very different roles. I understand the overview. This Committee has an overview of environmental issues, but the ability to drive the agenda is not always in our power. Could you give any tangible examples of how you will ensure sustainability is at the heart of everything that the Ministry of Defence actually achieves?

Jeremy Quin: I can absolutely assure you that the structures are in place to ensure that is developed. I should mention that below DSEC there is a steering group with the number twos of all those who sit on DSEC. There is already initial operating capacity on the new directorate to which I referred. I think that is a proper mechanism, via the Defence plan, and it has teeth.

I am absolutely certain that when we have Richard's report, which is due in December of this year, there will be additional responsibilities and additional regulations placed via that structure, so that we will be in a position this time next year, if re-summoned, to set out exactly what we have been doing and how we are honouring the new commitments coming through.

While Richard's report is very important, he would be the first to acknowledge that it builds on existing work. There have been a couple of decades of sustainability policy inside the MoD; the current policy action, Evolve, is for 2015 to 2025. A lot has happened since 2015. We know our responsibility in terms of helping to ensure that we hit all those relevant targets, and there is more we need to do.

Richard, I think you sit on this committee.

Air Marshal Knighton: I do. If I may again hopefully offer a little reassurance, the members of the committee include all of those who own the key outputs of Defence, so they include all of the Service Chiefs, the Commander of Strategic Command, the Chief Executive of the Defence Equipment and Support organisation, and the Chief Executive of the Defence Infrastructure Organisation. As a consequence, the Committee can provide oversight, because it has a view of all of Defence, and also it has the executives who are accountable and responsible for the outputs of the Department on it. That is why we are able to ensure that it can both have oversight and drive the outputs of the Department.

Q40 **Dr Matthew Offord:** That is very helpful, thank you. We have the Defence Safety and Environment Committee but, in addition, I am aware of the work of the Defence Safety Authority and its inability to reassure the Secretary of State about environmental policy and regulation. How does that Committee fit in with the Defence Safety and Environment Committee, and how do they contribute to the objectives of the Department?

Air Marshal Knighton: The Defence Safety Authority is not a Committee in its own right; it is an organisation that was formed in 2015. Originally it was formed out of the Military Aviation Authority, but it now has audit responsibilities and regulatory responsibilities over a much broader base. The Defence Safety Authority and the Director General in charge of that, Air Marshall Sue Gray, does come and advise the Defence Safety and Environment Committee on audit findings around safety and environmental matters.

Q41 **Dr Matthew Offord:** Therefore it is a contributory organisation. Does it have any ability to influence, or even direct, the safety committee?

Air Marshal Knighton: The formal relationship is as a regulator; a regulator can demand an organisation takes certain steps. That is the power that the Defence Safety Authority has. Sue Gray, the DG there, has direct responsibility to the Secretary of State, and that is where she draws her authority from.

Dr Matthew Offord: That is very helpful. Thank you.

Chair: Jerome Mayhew will follow up on other safety issues.

Q42 **Jerome Mayhew:** Yes, I want to pick up on one particular, quite small, area that has been highlighted today. Dr Offord referred to the Defence Safety and Environment Committee, and there is also of course the

Directorate of Health, Safety and Environmental Protection. I am interested in the Departments' conflation of health and safety with environmental protection, because that is a fairly unique conflation, in my experience. Business certainly does not do that. Perhaps the Minister to begin with, could you please explain what are the benefits of linking health and safety with environmental protection? Are there any, or is it just a quirk?

Jeremy Quin: I think it works for us, Mr Chairman. It works for us very well. There are actually some corporates that have a similar distinction between making absolutely certain that they have environmental protection and assurance on the one hand, and looking through different eyes at what they can achieve in the long term, in terms of long-term sustainability. Having challenged this, I think it does work very well for the military, because health and safety is such an important aspect of what the military does. There is a lot of dangerous kit, clearly, which needs to be properly operated, and health and safety has always had a hugely important role inside the Ministry of Defence. That has been given a similar prominence alongside environmental protection, so it is a straightforward operating issue. It is what we are doing and how can we assure that we do it safely in every respect, including environmental protection, and in circumstances where there is a problem uncovered, or a problem occurs, it is how we mitigate that risk.

I think it does fit neatly. The changes we have made ensure that environmental protection does get proper focus as part of that structure. When we have Richard's report, there is more work we can do to build on existing programmes in terms of sustainability. I think that will be fed through DSEC, but the two will need to work extremely closely together, environmental protection and sustainability. However, I do not want us to lose sight of the long-term objectives and how we must achieve what we need to do towards net zero, because we are focusing day to day on a particular training programme, a particular exercise and how we meet environmental protection targets in that respect.

I totally understand the assurance question, Mr Chairman, but, having gone through it, I do understand the logic and why it works for the military in having two specialisations when we look at a similar problem. Providing they work together on the challenge, I think it is a system that works well.

Q43 **Jerome Mayhew:** Picking up on that, what you are essentially saying—what I am hearing, Minister—is that it reflects the importance the Ministry is placing on environmental protection by associating it directly with health and safety, where health and safety is obviously critical, given the bits of kit you are playing with.

Jeremy Quin: That is correct.

Q44 **Jerome Mayhew:** Is not the risk that because health and safety is so important in the Ministry of Defence, the environmental protection side of the argument is almost inevitably going to be sidelined by health and safety? How do you prevent that happening?

Jeremy Quin: It is something we are conscious of. There was an internal report that was commissioned and reported a couple of years ago that drew attention to the fact that was indeed a risk, and was a risk that the Department was concerned about. That is part of the reason why we have adopted the new governance, and made absolutely certain that the environmental protection aspect does not have a diminished focus compared to health and safety. All three are extremely important, so that is very much the focus of the Department.

Q45 **Jerome Mayhew:** Air Marshal Knighton, you will be aware of course that at the Defence Safety and Environment Committee's meetings that have been taking place throughout 2019, the environment was only considered once. Are you concerned by that, or do you think that the evolving governance in this area is going to make sure that the environment is not sidelined, as it appears to have been last year?

Air Marshal Knighton: 2019 was the first year that the Committee had been in existence. Although the environmental issues were only discussed at two of the meetings, there were actually two very substantive agenda items associated with the environment and sustainability.

I think your broader concern about the dangers the NAO report described of environmental protection as being a "Cinderella issue" is one that we absolutely recognise. What I have seen through the past year on the Defence Safety and Environment Committee is an increasing focus on environment and sustainability matters and issues. Some of that is triggered by the commitment by the Government to net zero and the clear signal that presents that we need to do much, much more in order to deliver against that target. You are right that it is an area of concern, but my experience over the past year and a half has been that this has become an increasingly prominent issue. I fully expect it to become more prominent as we go forward, and an increasing focus for the energy and efforts of officials inside the Department, from my military colleagues and also for Ministers.

Q46 **Jerome Mayhew:** Thank you very much for that answer. I am going to finish off by opening up a much wider perspective. I would be particularly interested in the two Generals' views on this. A lot of what we have been talking about and what the National Audit Office report reflects is the work that the Department has been doing on reducing environmental harms through activities of the Department. In addition to reducing harms, how can we focus on improving the state of the environment, being proactive in our ambition and the scope of the activities that we are implementing, rather than being essentially reactive and trying to minimise the harms of our existing schemes?

Major General Cavanagh: I will offer a first view on that. Particularly on the management of our rural estate, as the Minister said, it is primarily there to enable military training. However, we have a strong sense that we can balance the requirement to look after that estate, as we have described, with the requirement over the longer term to improve it. A core

focus is our engagement with the ambitions in the DEFRA 25-year environment plan, our audit of our natural capital and a strong desire to work with statutory bodies, a huge number of volunteer organisations and other bodies to materially improve the estate while enabling military training. We are seeking, within resource and within the constraints of military training, to improve the estate that we have significantly.

Lieutenant General Nugee: There are two areas. One is the estate that Nick has mentioned. The regeneration of peat bogs, if we can do it, will make a big difference to the ability to sequester carbon on our estates. That is just one example of how we can make our estate much more carbon friendly, if I can put it like that, and actually get in and sequester as much as we possibly can.

There is a second aspect that I am looking at as well, which is what a climate-change world means in terms of our deployments and in terms of who we would support. Can we build upstream capacity in the environmental space? The Army at the moment is helping out in Africa, coaching units, for example. That is a relatively small example, but can we extrapolate that to elsewhere. As the Minister has said on a number of occasions, can we look at how we do humanitarian assistance and disaster relief in a way that is more effective, with more training and perhaps some specialist equipment, and certainly more understanding of when it is likely to happen, how often and what damage is being done by the more violent storms we are expecting in the next 10 to 20 years, and therefore what we can do to support others.

It is not just about minimising our emissions, which is a crucial part of what we are trying to do, but building our estate, looking at where we can deploy to try to improve the resilience of others against the threats of climate change that are likely to happen in the next few decades.

Jerome Mayhew: Thank you. Minister, do you have anything else you want to add to finish off that section?

Jeremy Quin: No, I think Richard has covered that extremely well. Thank you, Jerome, for your questions.

Jerome Mayhew: Thank you. Chairman, back to you.

Chair: The last question is from Robert Goodwill.

Q47 **Mr Robert Goodwill:** Turning to the upcoming integrated security defence and foreign policy review, I would like to ask General Nugee, if I may, how front and centre sustainability and the battle to reduce CO_2 emissions will be in that review. Or will it be sort of a peripheral add-on?

Lieutenant General Nugee: I am fortunate enough to sit on the National Strategy and Implementation Group for Climate Change, where this has come up a number of times. Every chapter of the integrated review is going to have a theme within it of climate change, which includes the modernising defence chapter. We are looking at exactly what we can do to integrate

that into the review. Obviously our input into the review is draft at the moment, because it has not been published, but we have written fairly extensively as to what we are trying to do and what our ambition is in terms of the integrated review, both in terms of adaption to the climate-changed world of 2030 to 2040 and in terms of making sure that we reduce our emissions in line with trying to get to the net zero 2050 target. I would argue it is going to be pretty important in the review, and we have certainly added to the review to make that the case.

Q48 **Mr Robert Goodwill:** I think in your earlier evidence you talked about coming "as close as we can," and then we talked briefly—I think in answer to Barry Gardiner's question—about offsetting to make up the difference. What sort of ballpark figure do you see "as close as we can" being?

Lieutenant General Nugee: Early days, and I would not want to be kept to this, but if everything goes well, if we can get the estate, and if we have enough money to do it all, I do not believe that net zero is impossible for the Department by 2050. It is extremely unlikely that it would be before that. However, we need to make sure that everything falls into place and that we have sufficient money to do everything we can to try to reduce our emissions to the absolute minimum—the irreducible minimum, as I call it—at the same time as maximising our opportunities on the estate to create carbon sinks and so on. It is possible, but that is with very early figures and very early amounts of analysis so far.

I am not going to say, "We will hit net zero 2050" yet, because I do not have the evidence to prove it, but that is absolutely the intent of where I am trying to get to with my review.

Q49 **Mr Robert Goodwill:** Understood. The MoD and its contractors carry out a lot of cutting-edge technological research. As I think we saw way back with the US moon mission, there was a lot of that cross-fertilised back into developments the rest of the economy could use. Can you see any of the work that the MoD is doing as a catalyst for environmental performance across Government, both in terms of what you are doing as nuts-and-bolts stuff on the estate, and in research that could have benefits elsewhere? Maybe the Minister will comment on that.

Jeremy Quin: Thank you, Chairman. I very much hope we can add to the weight of scientific research. There are ongoing projects; the logistics and technology investigations are looking at alternative fuels, and there is a whole canopy of work that was done previously by DSTL. I sincerely hope that we are part of the process of trying to find solutions.

As Richard is keen to mention, what we can do in future will rely on our hitting the ambitious targets that we are setting for being ready for new technologies when they emerge—in military speak, being fitted for what develops over time. We are also part, through the Defence scientific establishment, of trying to find some of those solutions.

As I mentioned, we are certainly looking at things like alternative fuels, but there are also—Rich Knighton referred to this—simple things to do with how we do business, be that synthetics, changes to the way the RAF flies operations to be more fuel efficient, or redesigning rudders for all naval vehicles to save 3% of fuel. There is a whole raft of areas where research is constantly causing the way we do things to evolve. I certainly confirm, Robert—*[Interruption.]* I fear we have an announcement happening, for which I apologise. We will certainly do our utmost to ensure that best practice is followed.

We might just go on mute, Mr Chairman, while we have the internal MOD announcement, if that is okay.

Chair: That is a good idea.

Q50 **Mr Robert Goodwill:** Maybe I could turn to cross-fertilisation in the other direction. We have seen tremendous improvements in shipping. As a former shipping Minister, I have seen that in terms of using LNG as a fuel, and also from the cruise industry, when ships are in port plugging into an umbilical, rather than running their generator. I know there have been problems at the start of lockdown with HMS Prince of Wales in Portsmouth running her four 11-megawatt generators—equivalent to a town of 25,000 people. Can we do more specifically to try to reduce the impact of noise and air pollution for the people in Gosport and elsewhere, by getting more of our ships plugged into the mains, rather than running their generators?

Jeremy Quin: Talking of noise pollution, Mr Chairman, I am afraid I only heard half of Robert's question, because we were having an internal announcement here. I apologise if I missed it all, but I get the point regarding the plugging-in of shipping in order to avoid it. I am afraid I am not up to speed on the detail of that. I see one of my colleagues might wish to contribute.

Major General Cavanagh: I am not familiar with the details, but part of the development of the jetty in support of the Queen Elizabeth craft carriers did include ground-power-supply networks, so that ships could be plugged in when they are alongside.

You are right, there was an issue in Portsmouth that I know took some time to address, but that was as a result of a technical issue. My understanding is those power supplies are now all restored, but there was a technical issue, which I do understand.

Mr Robert Goodwill: Thanks very much, Chairman.

Q51 **Chair:** Thank you, Robert. If I could finish with one question on the subject of innovation, this Committee has undertaken an investigation recently into offshore wind and the potential for floating offshore wind, significantly increasing the number and the scale of turbines in the North Sea. One of the points that was raised to us was that other Government Departments apart from BEIS, including the MoD, had some concerns about this. I recall from being in post that much of the work undertaken at the time by the

MoD was concern over the impact of turbines on air defence radar, particularly at low levels.

Can you confirm, Minister, that you are engaged in cross-departmental work with other Departments to try to help mitigate and find solutions around these problems, rather than impose obstacles on deployment of renewable energy in the North Sea?

Jeremy Quin: Chairman, I have not personally been involved in any of those discussions; as you know, I have only been in post for a short period. That does not mean that they are not continuing with officials, but I am afraid I could only speak from personal experience, and I would not be able to give you a personal assurance about what we are doing as a Department, in terms of helping what I recognise is a growing industry that we would wish to support.

On concerns regarding radar—as I say, it is not an issue I have personally been involved in yet—military capability is, as the Committee will understand, absolutely critical. We need to ensure that we are properly defended, and we need to ensure that radar is working properly in that context, but where there are mitigations, we would clearly welcome it. However, I am not up to speed on it, I need to do some work.

Q52 **Chair:** Can I ask the Air Marshal whether he could contribute to this?

Air Marshal Knighton: Thanks, Chair. You may recall I was the Assistant Chief of Air Staff a few years ago, and in that role I had some engagement with this issue. There is quite a well-established cross-Whitehall community where these kinds of issues, particularly around siting of windfarms, are considered. We are seeing quite a significant advance in our air surveillance technology and capability as we roll out new radars and new systems that help mitigate some of the impact of turbines on the performance of radars and therefore help mitigate the safety risks associated with that.

The very specific example of floating windfarms is not one I am familiar with, but I am confident that the specialists inside the Ministry of Defence are engaged and will be working with colleagues across Whitehall to try to find a solution to the challenges that are imposed by bringing in these kinds of capabilities and technologies.

Q53 **Chair:** Thank you. We have two members of this Committee with a particular interest in this, being along the Norfolk coast. We also have Ian Levy from Blyth, where they are manufacturing 100-metre long turbine blades; that is an order of magnitude more significant that what is currently installed. Help from the MoD in ensuring that these can be deployed will be critical if the country is going to meet our renewable energy target.

Can I thank all our witnesses—Minister Jeremy Quin, Lieutenant General Nugee, Major General Cavanagh and Air Marshal Knighton—for a very interesting session? There is no doubt at all that the environment has gone up the agenda since I was sitting in your chair, Jeremy, when it was not something that I appeared before a Committee to discuss. Your

contributions today have shown us that this is now much higher up the Ministry's agenda, and that is very welcome. Thank you for your help. Thank you, members of the Committee, for joining us today, and to our Clerks, Medha Bhasin and Katie Gibbs, for preparing our brief. Thank you very much indeed.